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32.3

Preventing Storm Water Pollution and Oil Spills

Recommended for approval by the ES&H Working Group

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Preventing Storm Water Pollution and Oil Spills**1.0 Introduction**

The purpose of this document is to summarize regulations, requirements, and responsibilities related to storm water discharges and the management of oil-containing equipment at Lawrence Livermore National Laboratory (LLNL). The information supplements *ES&H Manual* Parts 32 and 35. Four documents contain detailed information on implementation:

- Storm Water Pollution Prevention Plan (SWPPP), Livermore Site.
- Storm Water Pollution Prevention Plan (SWPPP), Experimental Test Site (Site 300).
- Spill Prevention Control and Countermeasure (SPCC) Plan, Livermore Site.
- Spill Prevention Control and Countermeasure (SPCC) Plan, Site 300, Experimental Test Site.

This document addresses the following topics:

- General information about the applicable federal and state regulations
- An overview of obligations related to the SWPPPs and SPCC Plans, including
 - Best management practices
 - Design requirements, where applicable
 - Inspection, monitoring, and record-keeping requirements
 - Training requirements
- A summary of responsibilities of the authorizing organization
- A glossary of acronyms and terms used in this document.

This document does not provide detailed information on such topics as allowed nonstorm water discharge categories; lists of specific oil-containing products, equipment, or storage systems; or specific best management practices associated with particular activities. Because such details change over time, always consult the most current version of the SWPPPs and SPCC Plans, which are updated as necessary to incorporate revised regulations, requirements, and potential or actual sources of pollution at LLNL.

1.1 Storm Water Pollution Prevention Plans

The main objectives of the SWPPPs are to help identify pollutant sources that affect the quality of industrial storm water discharges and to describe implementation practices to reduce pollutants in the discharges. Any discharge to the storm water drainage system shall be composed entirely of storm water or be permitted; otherwise the discharge is illegal. Elimination of illegal nonstorm water discharges and minimizing the impact of spills are major elements of the SWPPPs. New discharges of permitted categories are required to be evaluated and eliminated if practical, and records are maintained showing why a new discharge could not be eliminated.

Annual inspections and the reporting of results in an annual stormwater monitoring report to regulatory agencies are necessary to show that LLNL has fully complied with the provisions of the SWPPPs and its two industrial storm water discharge permits. Thus, personnel within each LLNL directorate need to be fully cognizant of the best management practices that are identified in the SWPPPs. The importance of best management practices to reduce pollution is emphasized in this document. To further help in implementing the SWPPPs and conducting inspections, the complete text of the Livermore site and Site 300 SWPPPs are on the LLNL internal home page and can be accessed at the internet address:

http://www.r.llnl.gov/es_and_h/swppp-hp.html

1.2 Spill Prevention, Control and Countermeasure Plan

The SPCC Plans describe in detail the measures that shall be taken at LLNL to prevent, control, and handle potential spills from oil-containing equipment. The SPCC Plans are intended for Laboratory personnel who operate, maintain, and are responsible for oil-containing equipment. Either SPCC Plan can be obtained from the Water and Guidance Monitoring Group (WGMG) of the Environmental Protection Department (EPD) (call ext. 2-1729) or from the internet at the following URL:

http://www.r.llnl.gov/es_and_h/spcc/spcc-hp.html

2.0 Regulatory Background

2.1 Requirements for Discharges to Storm Drains

2.1.1 Storm Water Discharges to Storm Drains

LLNL operates under National Pollutant Discharge Elimination System (NPDES) permits. The permits are issued through the San Francisco Bay Regional Water Quality

Control Board and the Central Valley Regional Water Quality Control Board (Regional Boards). The Regional Boards have adopted site-specific Waste Discharge Requirements (WDRs) for storm water and specific nonstorm water discharges at the Livermore site and Site 300. The applicable orders and permits are:

- WDR Order No. 95-174, NPDES No. CA0030023, for the Livermore site, hereafter called WDR 95-174.
- WDR Order No. 94-131, NPDES No. 0081396, for Site 300, hereafter called WDR 94-131.

LLNL is required to maintain and implement *Storm Water Pollution Prevention Plans* (SWPPPs) for both the Livermore site and Site 300 to comply with the two WDRs. By law, LLNL is required to monitor storm water discharges and to conduct annual inspections of its facilities to determine whether best management practices identified in the SWPPPs are in place, properly implemented, and adequate. Each LLNL directorate is responsible for conducting inspections of the facilities it operates. If minor deficiencies are found as a result of inspections, they are described on the inspection forms, discussed in the *Annual Storm Water Monitoring Report*, and corrective actions are identified. Every year, each Associate Director at LLNL certifies under penalty of law that the facilities he or she operates are in compliance with the applicable storm water discharge permit and the SWPPP for that site.

2.1.2 Nonstorm Water Discharges to Storm Drains

The NPDES permits for LLNL prohibit most nonstorm water discharges. However, certain nonstorm water discharge categories are currently allowed under LLNL's two industrial storm water permits and SWPPPs, provided that specified best management practices are followed while conducting the activities. New discharges from any allowed category are required to be evaluated and eliminated if practical, and records are required to show why a new discharge could not be eliminated. For a current list of nonstorm water discharges that are covered by WDR 95-174 and allowed at the Livermore site, or covered by WDR 94-131 and allowed at Site 300, see the SWPPP for the site of interest.

2.2 Requirements for Oil Spill Prevention and Control

LLNL is required to comply with federal and state regulations to prevent, control, and handle potential spills from oil-containing equipment. The SPCC Plans comply with the Federal Oil Pollution Prevention Regulation, Title 40, Code of Federal Regulations, Part 112 (40 CFR 112); and Division 20, Chapter 6.67, of the California Health and Safety Code (HSC 6.67) requirements for oil pollution prevention.

3.0 Obligations Related to the SWPPPs

The SWPPP for the Livermore site is currently under revision and will be available in mid-2000. The SWPPP for Site 300 will be revised within 90 days of reissuance of WDR 94-131, which is scheduled to be reissued in June 2000.

3.1 Actual or Potential Sources of Storm Water Pollution

The identification of nonstorm water discharges is an ongoing activity because of the dynamic nature of work performed at LLNL and the complexity of its management system. The SWPPPs for the Livermore site and Site 300 identify each of the nonstorm water discharges currently allowed by the two WDRs. Such discharges include landscape irrigation, safety showers, fire-suppression apparatus, and other sources. Many of the discharges do not flow beyond site boundaries during dry weather, or they may amount to no more than a drip to the ground. The SWPPPs also identify significant materials that have a reasonable potential to be present in storm water, and pollutants of concern that are associated with each nonstorm water discharge type allowed by the WDRs. Each Associate Director at LLNL is responsible for providing the Associate Deputy Director for Operations with information about significant changes, as they occur, within their facilities that impact the SWPPP.

Twelve activities at the Livermore site and Site 300 are currently identified in the two SWPPPs as potential or actual sources of pollution that may impact the quality of discharges to storm water drains. The SWPPPs also identify a minimum set of best management practices that are applied to these activities as appropriate for each facility. The 12 activities and the SWPPP sections where the best management practices are discussed are:

1. Nonstorm water discharges to drains (Section 5.2.1)
2. Vehicle and equipment fueling (Section 5.2.2)
3. Vehicle and equipment washing and steam cleaning (Section 5.2.3)
4. Vehicle and equipment maintenance and repair (Section 5.2.4)
5. Transportation and loading/unloading of industrial materials and hazardous waste (Section 5.2.5)
6. Outdoor container storage of liquids (Section 5.2.6)
7. Outdoor process equipment operation and maintenance (Section 5.2.7)
8. Outdoor storage of raw materials, products, and byproducts (Section 5.2.8)
9. Waste handling and disposal (Section 5.2.9)

10. Management of contaminated or erodible surface areas (Section 5.2.10)
11. Building and grounds maintenance (Section 5.2.11)
12. Building repair, remodeling, and construction (Section 5.2.12)

The annual inspection and summary forms that are completed by each LLNL directorate as input for the *Annual Storm Water Monitoring Report* are organized to address each of these 12 activities in the order shown above.

3.2 Best Management Practices

For other LLNL activities related to Integrated Safety Management (ISM), best management practices are identified for authorizing organizations as recommendations or options. However, as the term is used in this document and in the context of the SWPPPs, best management practices related to storm water pollution prevention are mandated by law and the storm water discharge permits and are, thus, required. Failure to address and implement best management practices could jeopardize the discharge permits issued to LLNL.

Best management practices are not only an essential element of the SWPPPs, but they are also a reporting requirement of WDR 95-174 and WDR 94-131, and thus form the basis for annual inspections conducted by each directorate at LLNL. In general, a Laboratory-wide committee selected the best management practices because they reduce contamination or the potential for contamination of storm water. They can be simple and low cost (for example, keeping work areas clean and free of debris) or expensive (for example, installing structural controls). The best management practices identified on the inspection forms have been implemented at LLNL as required by ES&H regulations or as prudent practices. Most were selected from the *California Storm Water Best Management Practice Handbooks* (1993) and were evaluated for applicability to LLNL activities. Some were established for activities unique to LLNL.

WDR 95-174 and WDR 94-131 require LLNL to address best management practices in the following general areas:

1. **Good housekeeping.** Good housekeeping requires the maintenance of clean, orderly facility areas that discharge storm water. Material handling areas shall be inspected and cleaned to reduce the potential for pollutants to enter the storm water drainage system.
2. **Spill prevention and response.** Areas where significant materials can spill into, or otherwise enter, the storm water drainage systems and the systems accompanying drainage points shall be identified. Specific material handling procedures, storage requirements, and cleanup equipment and procedures shall be identified, as appropriate. The necessary equipment to implement cleanup shall be available, and

personnel shall be trained in proper response, containment, and cleanup of spills. Internal reporting procedures for spills of significant materials have been established at LLNL.

3. **Source control.** Source controls include elimination or reduction of the use of toxic pollutants, covering of pollutant source areas, sweeping of paved areas, and containment of potential pollutants.
4. **Storm water management practices.** Storm water management practices include practices related to treatment and conveyance structures, such as drop inlets, channels, retention and detention basins, treatment vaults, infiltration galleries, filters, oil / water separators, and so forth.
5. **Sediment and erosion controls.** Sediment and erosion control measures that minimize erosion, such as rip rap, revegetation, slope stabilization, and so forth, shall be described and implemented.
6. **Employee training.** Employee training programs shall inform all personnel responsible for implementing the SWPPP and address spill response, good housekeeping, and material management practices. New employee and refresher training schedules shall be identified.
7. **Inspections.** Trained personnel shall perform all inspections. Material handling areas shall be inspected for evidence of, or the potential for, pollutants entering storm water discharges.
8. **Records.** A tracking and follow-up procedure shall be described to ensure that adequate response and corrective actions have been taken in response to inspections. Inspections and maintenance activities shall be documented and recorded. Inspection records shall be retained for five years.

For a complete list of best management practices that apply to the 12 activity categories identified in the SWPPPs; steps to prevent, control, and handle contamination of storm water runoff; disposal priorities and alternatives; and procedures for releasing contained storm water, refer to the SWPPP for the Livermore site or Site 300.

3.3 Annual Storm Water Monitoring Report

An important responsibility of each LLNL directorate is to provide accurate and complete input for the *Annual Storm Water Monitoring Report*. In this report, LLNL is required to provide the following information based on annual inspections of its facilities:

- Date and time of inspection.
- Name and title of inspector.
- Summary and certification of inspection findings.

To fulfill the requirements of WDR 95-174 and WDR 94-131, each directorate is required to describe its storm water management controls, including best management practices, applicable to and appropriate for that facility. The directorate states whether the best management practices (identified in the SWPPP and shown on the inspection forms) are in place for each of the 12 activities that apply to its facilities, explains whether additional measures are needed to control storm water pollution, and describes any corrective actions that may be necessary. The Directorate Assurance Managers are notified in advance of when the annual inspections are to be completed, which is usually in mid-May.

EPD provides each directorate with inspection forms, a one-page summary form, and a certification form that are the tools for conducting and documenting annual facility storm water inspections. For convenience, WGMG makes these forms available to each directorate by electronic mail. For assistance in conducting inspections, contact the ES&H Team environmental analyst.

Annual inspections and the reporting of results are necessary to show that LLNL has fully complied with the provisions of its two SWPPPs and two storm water discharge permits. Thus, personnel within each LLNL directorate need to be fully cognizant of the best management practices that are identified in the SWPPPs.

3.4 Monitoring, Inspecting, and Recordkeeping

General responsibility for monitoring, which includes sampling and analysis, rests with EPD personnel. Responsibility for facility inspections rests with the LLNL directorates that own facilities that handle significant materials and have the potential to release those materials to the storm water drainage system. The SWPPPs include a current list of those LLNL directorates.

3.4.1 Monitoring Plan

Each of the two LLNL WDRs specify the elements that are required to be part of LLNL's monitoring and reporting program. A certified monitoring plan is maintained by the Environmental Protection Department, and it is made available to the Regional Board or local storm water agency upon request. The monitoring plan:

- Ensures that storm water discharges are in compliance with the discharge prohibitions, effluent limitations, and receiving water limitations specified in WDR 95-174 and WDR 94-131.
- Ensures that practices at the facility to control pollutants in storm water discharges are evaluated and revised to meet changing conditions.

- Aids in the implementation of the SWPPPs.
- Measures the effectiveness of best management practices in removing pollutants in industrial storm water discharge.

3.4.2 Storm Water Monitoring Program

To meet requirements of the monitoring plan, LLNL has developed and implemented the *Lawrence Livermore National Laboratory, Livermore, Water Monitoring Program* (1992, amended in 1995) and the *Site 300 Storm Water Monitoring Program* (1992). The two documents are hereafter referred to as the monitoring program.

The monitoring program identifies storm water monitoring influent and effluent locations, monitoring methods, analytical methods to detect pollutants, and monitoring parameters. It describes sampling methods, sampling locations, and the frequency of monitoring.

The monitoring program mandates an annual site inspection that shall be conducted by each directorate for its facilities. The Associate Deputy Director for Operations certifies to the Regional Boards, based on results of the annual inspection, whether the site is in compliance with WDR 95-174 or WDR 94-131, and with the associated SWPPP.

The monitoring program also includes two visual dry-season observations, monthly wet-season visual observations, and storm-event sample collections. Collected samples are analyzed for parameters required by the permits or that are part of the LLNL surveillance monitoring program. The observations and sampling are performed by the Environmental Protection Department.

3.4.3 Inspections by Directorates

Each directorate is responsible for conducting, at a minimum, an annual inspection of its facilities. The inspections shall:

- Be performed by qualified personnel as defined in the SWPPPs.
- Include a review of the site map for accuracy pertaining to the directorate's facilities, potential pollutant sources, structural and nonstructural controls, and related matters.
- Verify all relevant elements of the SWPPP that apply to the activities conducted by the directorate. The specific sections of the SWPPP that apply to each directorate can be found in the following chapters of the SWPPP:

"Description of Potential Pollutant Sources" (SWPPP Chapter 3)

"Potential Pollutants" (SWPPP Chapter 4)

"Steps To Reduce Pollution" (SWPPP Chapter 5)

"Monitoring and Recordkeeping" (SWPPP Chapter 6)

- Ensure that best management practices to reduce pollutant loadings to storm water runoff are properly implemented and adequate.
- Be certified by the Associate Director.

3.4.4 Recordkeeping

The results of annual inspections are documented by each directorate and kept on file at the directorate. Copies of the directorate summaries are also retained in the Operations and Regulatory Affairs Division (ORAD) Document Retention Center. Deficiencies are tracked by the responsible directorate in DefTrack with roll-up to the Assurance Review Office.

Visual observations, sampling date, and analysis data are maintained in the Environmental Protection Department Monitor database. Results of wet and dry season observations, sampling and analysis data, and certification of compliance are submitted to the Regional Boards yearly on the dates required by the discharge permits.

Records of all storm water monitoring and inspections, and copies of all reports required by the discharge permits, shall be retained for a minimum of five years from the date of the record or report.

3.5 Training

All personnel responsible for implementing the SWPPPs, including those individuals who conduct inspections, are recommended to take the Hazardous Waste Generation and Certification (EP0006) Training Course. Annual refresher training is provided through the Hazardous Waste Generation and Certification Review (EP0006-R) Training Course. Web-based storm water training (EP7034-01-W) is available at

<http://epdtraining.llnl.gov/cbt/swppp/index.html>

The Environmental Protection Department also provides tailored training for organizations upon request (EP7034-03).

Facility points of contact are required to take the courses listed above.

4.0 Summary of Responsibilities Related to the SWPPPs

4.1 Directorate Responsibilities

- General responsibility for SWPPP implementation rests with each LLNL Associate Director who owns facilities that handle significant materials and have the potential to release those materials to the storm water drainage system.
- Each Associate Director is responsible for providing the Associate Deputy Director for Operations with information about significant changes, as they occur, within their facilities that impact the SWPPP.
- The Associate Director's line management ensures implementation of the SWPPP for their facilities, with guidance provided by the Environmental Protection Department.
- Each directorate completes the SWPPP Annual Inspection Form and Inspection Summary Form, the Associate Director of that directorate certifies the inspection findings, and the completed documents are sent to WGMG.
- Each directorate is required to maintain copies of the inspection documents in its files for at least five years from the date of record or reporting. Such copies shall be made available to regulatory agencies (Regional Board or local storm water agency) on request.
- Employees are required to be trained as outlined in their LTRAIN training plan.

4.2 Environmental Protection Department Responsibilities

- The Environmental Protection Department is responsible for reviewing the SWPPPs and recommended changes, coordinating annual facility inspections, implementing the storm water monitoring program, reporting to the ES&H Working Group and to regulatory agencies, and conducting training related to the SWPPPs.
- WGMG personnel within ORAD assist LLNL directorates in answering questions regarding annual inspection requirements. They can also provide copies of the NPDES permits or related documents.
- ORAD's Document Retention Center keeps on file copies of the annual inspection document summaries.
- WGMG prepares the final *Annual Storm Water Monitoring Report* on the basis of input from the directorates.

- The Environmental Protection Department reports to the ES&H Working Group, as needed, on results of annual monitoring and inspections, and on changes in regulatory requirements.
- WGMG renews the two NPDES permits.

5.0 Obligations Related to the SPCC Plans

The SPCC Plans describe the measures that shall be taken at LLNL to prevent, control, and handle potential spills from oil-containing equipment. Oil includes, but is not limited to, petroleum, fuel oil, mineral oil, sludge, oil refuse, food oil, and oil mixed with wastes other than dredged spoil. Responsibility for implementing the SPCC Plan rests with each Associate Director, the Laboratory Site Manager, or the responsible individual who is responsible for facilities with spill potential.

5.1 Actual or Potential Sources of Oil and Oil Spills

The ChemTrack Operations Group of ORAD maintains a current inventory of oil sources at LLNL. Oil sources include oil of any kind or of any form including, but not limited to, oil products, diesel oil, solvents, and other fluids stored in aboveground storage tanks (ASTs); portable tanks for temporary use; drums, cans, and carboys; and fuel tanks for motor vehicles. Unleaded gasoline and diesel fuel is also stored in underground storage tanks (USTs). However, USTs within the LLNL underground tank program are in compliance with 40 CFR 280, which preempts 40 CFR 112 in that category, and thus coverage by the SPCC Plans. Mineral oil is used in oil-filled electrical equipment, such as transformers and experimental equipment.

The SPCC Plans cover and identify two types of sites with the potential for an oil spill: significant sites and significant risk sites. Significant sites are defined as those containing ASTs or electrical equipment with an oil capacity greater than 660 gallons in one container. Containers of oil located at significant sites shall be, and have been, provided with secondary containment at LLNL. Sites of significant risk are defined as those containing equipment with oil capacity less than or equal to 660 gallons, but where the spill risk is deemed great enough to warrant secondary containment. Because the list of significant sites and those of significant risk changes over time, always refer to the most recent revision of the SPCC Plan for the location, or consult the ES&H Team environmental analyst. Spill prevention at minor sites (less than 660 gallons of oil in one container), is generally achieved by good housekeeping and handling practices.

Regulations require LLNL to amend the SPCC Plan whenever changes to a facility increase or decrease the possibility of oil being discharged to navigable water. LLNL has decreased the likelihood of a spill from oil-containing equipment by improving its

facilities. The SPCC Plan for Site 300 was revised in January 2000. The SPCC Plan for the Livermore site (1995) is currently being revised and will be available by mid-2000. Copies of the SPCC Plans are distributed by ORAD under a controlled document system to ensure that appropriate personnel receive current versions.

5.2 Design Criteria

Guidance for the design of new or upgraded oil-containing tanks and equipment is provided by WGMG. Considerations for all significant sites and significant risk sites include volume of potential rainwater, seismic loading, materials and material compatibility, release valves for accumulated rainwater, and other criteria.

All new oil-containing tanks and installations shall be designed in accordance with current state and federal regulations, manufacturers' specifications, and best management practices. Literature from tank manufacturers shall be used to determine whether the product being stored is compatible with primary tank material and design features. Appropriate containment is required to be provided for ASTs and oil-filled electrical equipment listed in the SPCC Plans at significant sites and significant risk sites. All newly constructed aboveground fuel storage tanks shall be provided with secondary containment (double-walled or bermed) and shall have overspill protection, overfill protection, leak detection, and a remote leak alarm. Oil-containing drums at significant sites where risk is considered high shall be stored with appropriate containment, such as pallets with secondary containment or bermed storage areas.

5.3 Monitoring, Inspecting, and Recordkeeping

WGMG personnel monitor storm water surface runoff, as described in the SWPPPs, and they verify the efficacy of practices at each facility to control pollutants in storm water discharges. When a spill is detected or when certain deficiencies are noted by the authorizing organization personnel during their inspections, WGMG is notified. At significant sites, ultrasonic nondestructive tests, pressure tests, or other appropriate tests may be performed if problems are discovered or suspected. ES&H Team environmental analysts perform informal inspections during periodic walkthroughs.

Responsibility for more frequent and regularly scheduled inspections of aboveground oil-containing equipment is shared by two organizations. Plant Engineering of Laboratory Site Operations is responsible for receiving, storing, and dispensing petroleum fuels for maintenance and construction equipment, stand-by generators, and heating systems. Plant Engineering also receives and dispenses mineral oil for transformers in the primary electrical power-distribution grid. Plant Engineering inspects these systems.

Personnel within the various LLNL directorates are responsible for the equipment (including mineral oil systems, transformers, and oil-containing tank systems) they own and operate. Operators of ASTs shall inspect them visually on a regular basis for leaks and other potential problems. Table 1 is a summary inspection schedule for ASTs and other types of oil-containing tanks and equipment at Site 300. A similar inspection schedule will soon be implemented at the Livermore site.

Table 1. Inspection schedule for oil-containing equipment at Site 300.

Category of equipment	Inspection frequency
ASTs for stationary equipment	Monthly
Oil-filled electrical equipment	Semiannually
Miscellaneous permanent tanks and equipment	Monthly (or at an interval justified by risk evaluation)
Temporary or portable tanks or equipment	Daily

The SPCC Plans for the Livermore site and Site 300 describe in detail the methods to be used in performing inspections, and they contain sample inspection checklists. For example, the authorizing organization personnel are responsible for calibration and maintenance of overspill and leak detection equipment they own and operate. Visible oil leaks from tank seams, gaskets, rivets, and bolts sufficiently large to cause oil to accumulate around oil-containing equipment shall be promptly contained, cleaned up, and corrected where possible.

During periods of heavy rainfall, operators shall monitor secondary containments to prevent accidental discharges, to ensure that sufficient capacity is available to contain a maximum spill of the primary container, and to ensure that secondary containment release valves are sealed closed. The authorizing organization arranges for appropriate disposition of accumulated rainwater if there is not enough capacity in secondary containment.

At minor sites, responsible individuals are responsible for inspecting containers and drums periodically, depending on the assessed spill risk of contained oil.

Records of spill prevention briefings, rainwater releases, and visual inspections are retained for three years by Associate Directors or their designees for oil-containing equipment under their control. Records of self-assessment surveys, inspections, and audits shall be maintained by the authorizing organization's assurance staff.

5.4 Spill Response

The SPCC Plans for the Livermore site and Site 300 provide a spill response plan for operators of oil-containing equipment. Emergency response equipment and systems are facility-specific. Incidents are classified as either small or large, and a ten-step approach to managing leaks and spills is provided. All incidents shall be reported to the ES&H Team environmental analyst during working hours, or to the Environmental Duty Officer (EDO) at 2-7595 during off hours. Immediately call the LLNL Fire Department at 911 (or 925-447-6880 from a cellular phone on site) in an emergency or if the nature of a spill is uncertain. Spill response reporting to regulatory or other agencies is the responsibility of ORAD.

5.5 Training

All LLNL personnel and subcontractors shall receive training prior to operating or maintaining SPCC equipment. The training requirement may be fulfilled by successfully completing the Environmental Protection Department's Self-Study Training Guide, EP3045, *Spill Prevention Control and Countermeasure Plan* (1996). Refresher training is completed as deemed necessary by the Associate Director or designee at each facility.

6.0 Summary of Responsibilities Related to the SPCC Plans

Responsibility for implementing the SPCC Plan rests with each Associate Director, the Laboratory Site Manager, or the responsible individual who is responsible for facilities with spill potential.

6.1 Authorizing Organization Responsibilities

- Authorizing organizations are responsible for ensuring that appropriate containment is provided for new and upgraded ASTs and oil-filled electrical equipment at significant sites.
- Authorizing organizations are responsible for ensuring that new equipment containing less than or equal to 660 gallons of oil are evaluated against the significant risk site criteria listed in the SPCC Plan.
- Personnel within the LLNL directorates are responsible for inspecting equipment (including mineral oil systems, transformers, and oil-containing tank systems) they own and operate. The operators shall inspect such equipment, including aboveground piping and supports, regularly following the methods, checklists, and inspection forms identified in the SPCC Plans.

- Authorizing organization personnel are responsible for calibration and maintenance of overfill prevention, overspill, and leak detection equipment they own and operate. Overspill containers shall be kept clean and functional.
- Authorizing organizations are responsible for ensuring that adequate spill kits are provided near oil-containing tanks.
- Authorizing organizations are responsible for arranging for appropriate disposition of accumulated rainwater in secondary containment if there is not enough capacity to contain a maximum spill of the primary container.
- Associate Directors or their designees shall retain records for three years of spill prevention briefings, rainwater releases, and visual inspections of oil-containing equipment under their control.
- Associate Directors are accountable for ensuring that operators have completed the required SPCC training.

6.2 Environmental Protection Department Responsibilities

- WGMG is responsible for providing guidance for the design of new or upgraded oil-containing equipment, for reviewing plans and design submittals, and for verifying that new equipment complies with the SPCC Plan for the applicable site (Livermore site or Site 300).
- ES&H Team environmental analysts perform informal inspections during periodic walkthroughs.
- WGMG is responsible for performing or arranging ultrasonic nondestructive tests, pressure tests, or other appropriate tests at significant sites to address discovered or suspected problems
- Records of the formal inspections conducted by environmental analysts are kept by each individual environmental analyst.
- ORAD is responsible for spill response reporting.
- ORAD is responsible for reviewing the SPCC Plan after an incident invoking reporting requirements, after a facility design change affecting discharge potential, or every three years.
- The Environmental Protection Department Training Section in conjunction with WGMG is responsible for maintaining the SPCC Self-Study Training Guide.

7.0 Further Assistance

Please contact the ES&H Team environmental analyst or WGMG environmental analyst with any questions regarding regulations, requirements, or responsibilities related to either storm water discharges or spills from oil-containing equipment at LLNL.

8.0 Glossary of Acronyms and Terms

AST	Aboveground storage tank
CFR	Code of Federal Regulations
Discharge	Release or storm water flow or other substance from a conveyance system or storage container
DOE	U.S. Department of Energy
EDO	Environmental Duty Officer
EPA	U.S. Environmental Protection Agency
EPD	Environmental Protection Department at LLNL within the Laboratory Site Operations Organization
ES&H	Environment, Safety, and Health
Facility	A collection of industrial processes discharging storm water associated with industrial activity within the property boundary or operational unit
Illegal or illicit discharge	Any discharge to a municipal separate storm sewer system or to waters of the United States not composed entirely of storm water, except those authorized by an NPDES permit and discharges resulting from fire fighting activities
Inlet	An entrance to a ditch, storm sewer, or other waterway
LLNL	Lawrence Livermore National Laboratory
Minor site	Minor sites or insignificant sites are those where equipment at the site contains less than 660 gallons of oil and poses an insignificant risk because releases have little possibility of reaching navigable waters
Nonstorm water discharge	Any discharge to storm water drainage systems that is not composed entirely of storm water
NPDES	National Pollutant Discharge Elimination System
ORAD	Operations and Regulatory Affairs Division of the Environmental Protection Department

Regional Board	For the Livermore site, the San Francisco Bay Regional Water Quality Control Board; for Site 300, the Central Valley Regional Water Quality Control Board
Runoff	Water originating from rainfall and other precipitation that flows into drainage facilities, rivers, springs, seeps, ponds, lakes, wetlands, and shallow ground water
Significant risk site	Site that has a risk of a spill from oil containers less than or equal to 660 gallons that is deemed to be great enough to warrant secondary containment because of factors such as location relative to storm drains, failure probability, quantity, leak detection, security, or operational problems
Significant site	Site that has any one container whose capacity is greater than 660 gallons
Site 300	LLNL Experimental Test Site
SPCC	Spill Prevention Control and Countermeasures
Storm water	Storm water runoff, snow melt runoff, and storm water surface runoff and drainage, excluding infiltration and runoff from agricultural land
SWPPP	Storm Water Pollution Prevention Plan
UST	Underground storage tank
WDR	Waste Discharge Requirement
WDR 94-131	Waste Discharge Requirement Order Number 94-131, National Pollutant Discharge Elimination System Permit Number CA0081396 (for Site 300)
WDR 95-174	Waste Discharge Requirement Order Number 95-173, National Pollutant Discharge Elimination System Permit Number CA0030023 (for the Livermore site)
WGMG	Water Guidance and Monitoring Group within the Operations and Regulatory Affairs Division of the Environmental Protection Department

9.0 Work Standards

CA Health and Safety Code § 25270, Aboveground Storage of Petroleum

40 CFR 112, Oil Pollution Prevention

40 CFR 280, Technical Standards and Corrective Action Requirements for Owners of Underground Storage Tanks

10.0 Other References

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